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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,246	11/10/1999	SATOSHI SHINADA	Q56708	7699

7590

09/25/2002

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EXAMINER

NGHIEM, MICHAEL P

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/437,246

Applicant(s)

SHINADA ET AL.

Examiner

Michael P Nghiem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2002 and 19 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 43-45 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 21-23, 27, 29-32, 46 and 47 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-16, 26, 28, 33, 35-41, 48, 49 and 51-54 is/are rejected.
- 7) ☒ Claim(s) 17-25, 34, 42 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The Amendments filed on May 28, 2002 and July 19, 2002 have been acknowledged.

Claim Objections

1. Claims 2, 3, and 54 is objected to because of the following informalities:
 - claims 2 and 3 have not been cancelled but were indicated as being cancelled.
 - claim 54,
 - brackets (line 12) should be deleted.
 - after "contacts" (lines 14, 17), should delete "to".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application

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being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1- 4, 8, 9, 10/(1,2,4), 11/10/(1,2,4), 12/11/10/(1,2,4), 13/10/(1,2,4), 14-16, 26, 28, 33, 35-41, 48, 49, and 51-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagasaki et al. (US 6,036,305).

Nagasaki et al. discloses all the claimed features of the invention including:

- A printing apparatus (Fig. 7) comprising:

- an ink cartridge (11) for providing ink to a print head (1) through a tapered ink supply needle (2) and removably attached to the print head (Fig. 2), comprising:

- an ink chamber (12) for containing ink; an ink supply port (16) for supplying ink from said ink chamber to the print head of the printing apparatus (Figs. 3, 5, 6), said ink supply port comprising an external opening (opening of 16);

- a packing member (19) provided in said ink supply port, forming an ink channel for allowing a flow of ink (Fig. 6), said packing member sealing the ink supply needle of the printing apparatus by fitting therewith (Fig. 6);

- a valve device (18) contained in said ink supply port elastically abutting against said packing member (Fig. 5), said valve device selectively opening and closing said ink channel in conjunction with the ink supply needle (Figs. 5, 6);

- said valve device does not comprise a sphere (non-spherical shape of 18);

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- said valve device comes to close said ink channel of said packing member before the ink supply needle of the printing apparatus is completely detached from said packing member (Fig. 5);

- a porous member (14) accommodated in said ink chamber for absorbing ink (Fig. 3);

- said valve device comprising a substantially flat surface with which the ink supply needle contacts (surface contacting flat surface of 2);

- a guide body (left vertical wall adjacent 18, Fig. 6) for guiding said valve body to slide substantially vertically with respect to said packing member (Fig. 6);

- an elastic member (17) always urging said valve member toward said packing member (Figs. 5, 6);

- said valve member comprises a support structure for supporting said elastic member (surface supporting 17, Figs. 5, 6);

- said support structure is radially shaped (bottom surface of 18);

- said valve member comprises a flange (flange surface of 18 supporting 17, Figs. 5, 6) for supporting said elastic member;

- said packing member comprises a second surface (tapered surface of 19, Figs. 5, 6) facing said external opening with a tapered portion tapered from said external opening toward said ink chamber at said second surface, for guiding the ink supply needle of the printing apparatus (Figs. 5, 6);

- said tapered portion fits with the ink supply needle (Fig. 6);

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- said valve body of said valve device comprises a surface facing said packing member formed with a convex surface (surface of 18, Figs. 5, 6);
- a packing retainer (20) for retaining said packing member at said external opening of said ink supply port (Fig. 3);
- said packing retainer comprises a film (20) capable of being penetrated by the ink supply needle of the printing apparatus (Fig. 5);
- said film is formed with a hole (hole of 20, Fig. 5) which enables the ink supply needle to easily pass through;
- a distance from a part of said valve device which first contacts the ink supply needle when the needle inserts into said ink supply port to a part of said packing member which engages with the ink supply needle is longer than a distance between the tip end of the ink supply needle and the part of the ink supply needle which first contacts the packing member when the ink cartridge is coupled to the printing apparatus (Figs. 3, 5).

Even though Nagasaki et al. does not disclose that said hole is formed by cutting said film in a cross shape, it has been held that determination of patentability of a product is based on the product itself and does not depend on its method of production. In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Allowable Subject Matter

3. Claims 17-20, 24, 25, 33, 34, 42/38/(1,2,4,8,9), and 50/(1,2,4,8,9) are objected to as being dependent upon a rejected base claim, but would be allowable if

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rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 5-7, 10/5, 11/10/5, 12/11/10/5, 21-23, 27, 29-32, 37/5, 38/5, 39/38/5, 40/39/38/5, 41/40/39/38/5, 42/38/5, 46, 47, and 50/5 are allowed.

Reasons For Allowance

5. The combination as claimed wherein said abutting of said valve device against only an upper part of said protruding rim performs said closing of said ink channel (claim 5) or said packing member is provided with a lubricant coat at least at an area with which the ink supply needle contacts (claim 17) or said valve body comprises an ink channel allowing ink to pass therethrough (claim 18) or said guide body comprises an axial portion and a guide block (claims 21, 27) or said valve body and said guide body are fixed to each other by fixing means (claim 24) said valve body and said guide body are formed as one unit with each other (claim 25) or wherein said valve body of said valve device comprises a surface, facing said packing member, provided with a notch (claim 30) or said spherical surface of said valve device has a diameter of curvature larger than a diameter of a widest part of said valve body (claim 34) or said packing retainer is a protruding portion (claim 42) or said ink supply port includes a concave portion, and wherein said packing member includes a protruding portion extending toward said supply port and fitting with the concave portion of said ink supply port (claim 50) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

6. Applicant's arguments filed on May 28, 2002 and July 19, 2002 have been fully considered but they are not persuasive.

With respect to the 35 USC 102 rejections, Applicants argue that Nagasaki does not disclose a sealing film sealing the external opening of the ink supply port until the ink supply needle penetrates into the ink supply port.

Examiner's position is that Nagasaki discloses a sealing film (20) sealing the external opening of the ink supply port (Fig. 3) until the ink supply needle (2) penetrates into the ink supply port (Fig. 5). This feature is well-known as made evident by Shinada et al. (US 5,790,158). Shinada discloses a sealing film (546) for sealing an ink supply port.

Applicants further argue that Nagasaki does not teach using a sponge together with a valve.

Examiner's position is that Nagasaki teaches using a sponge (14) together with a valve (18) (Fig. 3).

Applicants further argue that the ink supply pipe of Nagasaki has a flattened top and cannot be said to be an ink needle.

Examiner's position is that Barinaga (US 5,777,646) discloses an ink needle (162) having a flat top (Figs. 9, 10).

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Applicants further argue that Nagasaki does not teach the valve device with a substantially flat surface in combination with a tapered ink needle.

Examiner's position is that Nagasaki teaches a valve device with a substantially flat surface (since the surface curvature of valve 18 is slight, 18 thus has a substantially flat surface) in combination with a tapered ink needle (tapered needle 2, Fig. 5).

Applicants further argue that Nagasaki does not teach a guide body for suppressing a horizontal deviation of the valve.

Examiner's position is that Nagasaki teaches a guide body (left vertical wall adjacent 18) for suppressing a horizontal deviation of the valve (valve 18 cannot move beyond said wall in the left and horizontal direction, Fig. 5).

New claims 51-54 contain subject matters already discussed above.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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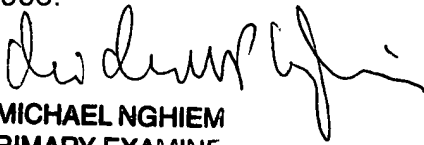
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hilten can be reached at (703) 308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


MICHAEL NGHIEM
PRIMARY EXAMINER

Michael Nghiem

September 19, 2002